

CLAIMS

1. An article-positioning machine of the type comprising means to collect the articles (Z) in a plurality of individual housings (10) moving in a closed circuit
5 and, in at least one drop zone (2a, 2b, 2c) allow the orientated articles (Z) to each drop inside a corresponding alignment conduit (3) moved together with each housing (10) and exit means to extract the orientated and aligned articles (Z) from said alignment conduits (3) onto an exit conveyor, **characterised** in that each alignment conduit (3) comprises an upper portion (20) for article (Z)
10 collection from the corresponding housing (10), at least one moving intermediate portion (30) defining at least one conduit (31, 32) and a lower portion (40) for receiving the articles (Z) comprising at least two compartments (41, 42, 43), a stationary support plane (7) being provided interposed between the intermediate (30) and lower (40) portions, drive means (4) being provided to selectively move
15 said intermediate portion (30) in order to face said conduit (31, 32) with the upper portion (20) and receive an article (Z) from the same, and/or face the conduit (31, 32) with one or the other of said at least two compartments (41, 42, 43) of the lower portion (40) to transfer said article (Z) to the same via at least one interruption (5a, 5b) existing in said support plane (7).
- 20 2. A machine in accordance with claim 1, characterised in that said selective movement of the intermediate portion (30) is transversal to the drop direction of the articles (Z) along the alignment conduit (3).
3. A machine in accordance with claim 2, characterised in that said selective movement of the intermediate portion (30) is a return movement with
25 stops at the ends of travel and without intermediate stops, each stop determining at least one of the cited facings of cited at least one conduit (31, 32).
4. A machine in accordance with claim 3, characterised in that said intermediate portion (30) comprises two adjacent conduits (31, 32), said lower portion (40) comprises three adjacent compartments (41, 42, 43) and the support
30 plane (7) comprises at least two interruptions (5a, 5b).
5. A machine in accordance with claim 2, characterised in that said selective movement of the intermediate portion (30) is a return movement with

stops at the ends of travel and at least one intermediate stop, each stop determining at least one of the cited facings of at least one conduit (31, 32).

6. A machine in accordance with claim 5, characterised in that said intermediate portion (30) comprises three adjacent conduits (31, 32) and said lower portion (40) comprises four or five adjacent compartments (41, 42, 43) and the support plane (7) comprises at least two interruptions (5a, 5b).

7. A machine in accordance with claim 1, characterised in that said intermediate portion (30) defines a single conduit (31, 32) and articulates with the lower end of the upper portion (20), with said selective movement of the intermediate portion (30) pendular with stops at, at least the ends of travel, each stop determining at least one of the cited facings of the conduit (31, 32) with one of the compartments (41, 42, 43) while constantly maintaining the cited facing with the upper portion (20).

8. A machine in accordance with any of the previous claims, characterised in that said closed circuit is circular or elliptical and comprises as many drop zones (2a, 2b, 2c) as there are compartments (41, 42, 43) in the lower portion (40).

9. A machine in accordance with claim 2, characterised in that said drive means (4) comprise at least one fluidodynamic cylinder associated with each intermediate portion (30) and independently controlled by control means.

10. A machine in accordance with claim 5, characterised in that said drive means (4) comprise at least one set of two fluidodynamic cylinders associated with each intermediate portion (30) and independently controlled by control means.

11. A machine in accordance with claim 9 or 10, characterised in that said drive means (4) also comprise a mechanical movement transmission for each intermediate portion (30).

12. A machine in accordance with claim 2 or 5, characterised in that said drive means (4) comprise at least one electric motor associated with each intermediate portion (30) and independently controlled by control means.

13. A machine in accordance with claim 2 or 5, characterised in that said drive means (4) comprise at least one electric motor and a mechanical

movement transmission associated with each intermediate portion (30) with said electric motor independently controlled by control means.

14. A machine in accordance with claim 2, characterised in that said drive means (4) comprise at least one stationary cam profile fixed to a machine bed
5 and at least one cam follower associated with each intermediate portion (30)

15. A machine in accordance with claim 1, characterised in that said housings (10) are adapted to collect the articles (Z) in a horizontal and pre-orientated position.

16. A machine in accordance with claim 1, characterised in that said
10 housings (10) and their corresponding upper access portions (20) comprise respective lateral moving parts (11, 21) coupled together and susceptible to being changed position to adapt the housings (10) and upper portions (20) to articles (Z) of different sizes.

17. A machine in accordance with claim 16, characterised in that said
15 housings (10) and/or their corresponding upper portions (20) also comprise respective interior moving parts (14) susceptible to being changed position to adapt the housings (10) and upper portions (20) to articles (Z) of different sizes.

18. A machine in accordance with claim 1, characterised in that said lower portions (40) comprise at least one lateral moving part (44, 45, 46) associated
20 with each compartment (41, 42, 43), with said lateral moving part (44, 45, 46) susceptible to being changed position to adapt the lower portions (40) to articles (Z) of different sizes.

19. A machine in accordance with claim 18, characterised in that said lower portions (40) also comprise at least one interior moving part (64, 65, 66)
25 associated with each compartment (41, 42, 43), with said lateral moving parts (64, 65, 66) susceptible to being changed position to adapt the lower portions (40) to articles (Z) of different sizes.

20. A machine in accordance with claim 1, characterised in that said upper portions (20) and/or intermediate portions (30) and/or lower portions (40) form
30 respective moving assemblies susceptible to being changed position to adapt the upper (20) and/or intermediate (30) and/or lower (40) portions to articles (Z) of different sizes.